Determination of Rangeland Health

The Record of Decision (ROD) for the New Mexico Standards for Public Land Health and Guidelines for Livestock Grazing Management (dated January 2001) adopted three Standards for Public Land Health. These are (1) Upland Sites Standard, (2) Biotic Communities, Including Native, Threatened, Endangered, and Special Status Species Standard and (3) Riparian Sites Standard.

The ROD also established a process for the BLM Field Offices for the implementation. Through a public participation process, the Roswell Field Office developed and adopted indicators to use in conjunction with existing monitoring data to assess these Standards.

Field assessment worksheets and other available data which evaluate the local indicators, were completed for this allotment. Based on the assessments, it is my determination that the Public Lands within the Van Eaton Allotment #65008 meet the Upland Sites Standard and (2) Biotic Communities, Including Native, Threatened, Endangered, and Special Status Species Standard. There are no Public Land riparian areas on this allotment, therefore this Standard will not addressed.

/s/ T. R. KREAGER	08/28/2003
Assistant Field Manager	Date

Standards of Public Land Health
Evaluation of 65008 VAN EATON RANCH Allotment
[04/22/2003]

The Roswell Field Office conducted rangeland health assessments at two study sites within Allotment no. 65008, VAN EATON RANCH. The assessments looked at the Soil/Site Stability, Hydrologic Function and Biotic Integrity indicators within the vicinity of each study site. Existing monitoring data was incorporated into and in support of the field assessment. The summary of each assessment is attached and shown in the following table.

Study Area or Assessment Area	UPLAND			BIOTIC			RIPARIAN		
	Meets	Monitor an Indicator	Does Not Meet	Meets	Monitor an Indicator	Does Not Meet	Meets	Monitor an Indicator	Does Not Meet
65008-ADAMS #1-D263 (*)	X			X			N/A		
65008-BREAKS #2-D264 (*)	X	*		X			N/A		

Twenty-two (22) indicators for Rangeland Health were evaluated for the Van Eatron Ranch allotment, #65008; 10 of these assessed soil/site stability, 11 assessed hydrologic functions and 13 assessed biotic integrity. These qualitative assessments along with quantitative information from long-term monitoring studies on two study areas on the allotment were utilized to assess the rangeland health of the public land within the allotment. These quantitative evaluations were performed by the Roswell Field office staff starting in the early 1980's. These included ground and vegetative cover and composition, production, frequency, and ecological condition as calculated from these collections which have been scheduled approximately every 5 years.

The Breaks Pasture lies just below the Caprock and for the most part is dominated by Pajarito-Bluepoint soils. These soils are classified as eroded soils and may contribute to the moderate/extreme ratings made for the Soils and Hydrology attributes. Gulleying and hummocks are common with this soil, particularly in the Bluepoint soils. These soils are excessively drained and have a low waterholding capacity. This coupled with the drought conditions has contributed to the decadent and loss of many of the dropseed (Sporobolus spp.) observed.

The bare ground indicator was rated moderate-extreme but this may be a lower rating than is justified for the soils/vegetation in this site. Generally, these soils have a higher

percentage of bare ground than other soils that are grouped into the Sandy SD-3 site classfication.

Monitoring will continue on the allotment and the attributes which were rated as Moderate or Moderate/Extreme will continue to be reviewed to detect changes that may occur.

In the professional opinion of the Assessment Team, the public land within the allotment meet the Upland and Biotic Standards. The Riparian Standard does not apply to this area.

The (*) indicates that the assessment had one or more indicator(s) rated moderate/extreme or extreme. These indicators are:

- Pedestals and/or Terracettes
- Bare Ground
- Wind-scoured, Blowouts, and/or Deposition Areas
- Invasive Plants

These indicators by themselves are not enough to rate the site as not meeting a standard but may warrant future monitoring.

Recommendations:

RFOs Upland and Biotic Standard Assessment Summary Worksheet			
SITE 65008-ADAMS #1-D263			
Legal Land Desc	NENW 10 0060S 0270E Meridian 23	Acreage	786
Ecosite		Photo Taken	N
Watershed	13060003190 CROCKETT		
Observers	NAVARRO/SPAIN	Observation Date	04/22/2003
County Soil Survey	NM644 CHAVES NORTH	Soil Var/Taxad	
Soil Map Unit	BRB	Soil Taxon Name	BLAKENEY
Texture Class	NM644 FSL	Soil Phase	BLAKENEY-RATLIFF
Texture Modifier	NM644 FINE SANDY LOAM		
Observed Avg Annual Precipitation		Observed Avg Growing Season Precipitation	
NOAA Annual Precipitation	12.74	NOAA Growing Season Precipitation	8.4
NOAA Avg Annual Precipitation	13.16	NOAA Avg Growing Season Precipitation	10.83
Disturbances and Animal Use:			

Part 2. Attributes and Indicators

		Departure from Ecological Site Description/Ecological Reference Areas				
Attribute	Indicators	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S H	Rills					X
Comments:						
S H	Water Flow Patterns					X
Comments:	Limited to some extent-broken throughout the area					
S H	Pedestals and/or Terracettes			X		
Comments:						
S H	Bare Ground				X	

Comments:						
S H	Gullies					X
Comments:						
S	Wind-scoured, Blowouts, and/or Deposition Areas					X
Comments:						
H	Litter Movement				X	
Comments:						
S H B	Soil Surface Resistance to Erosion				X	
Comments:						
S H B	Soil Surface Loss or Degradation				X	
Comments:						
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff				X	
Comments:						
S H B	Compaction Layer					X
Comments:						
B	Functional/Structural Groups			X		
Comments:						
B	Plant Mortality/Decadence					X
Comments:						
H B	Litter Amount				X	
Comments:						
B	Annual Production			X		
Comments:						
B	Invasive Plants		X			
Comments:	Mesquite and snakeweed common throughout the area					
B	Reproductive Capability of Perennial Plants					X
Comments:						
S	Physical/Chemical/Biological Crusts					X
Comments:						

B	Wildlife Habitat				X	
Comments:						
B	Wildlife Populations				X	
Comments:						
B	Special Status Species Habitat					X
Comments:	None known to occur					
B	Special Status Species Populations					X
Comments:	None known to occur					

Part 3. Summary

A. Indicator Summary - Each of the indicators are associated with one or more of the attributes below. An indicator is placed in a category (columns) above and summed for each of the Standard Attributes.

Standard Attribute		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S	Soil	0	0	1	3	6
H	Hydrologic	0	0	1	6	4
B	Biotic	0	1	2	5	5

B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the *Does not Meet* column, Moderate becomes *May Need More Info*, and Slight to Moderate and None to Slight merge to form the *Meets* columns. Values from the table are summarized below. Space is provided for rationale of the determination. This space should most certainly be sued when the determination by the ID team conflicts with the summarized values. Provide the sources of information that lead to the determination. X out the appropriate box for each attribute to denote final agreed upon determination by the ID team.

Attribute	Rationale	Does Not Meet	May Need More Info	Meets
Soil		0	1	9
Hydrologic		0	1	10
Biotic		1	2	10

Site Notes: The study area was previously classified as a Gravelly CP-2 site; however the field review of the area and soil map unit indicates that it is a Shallow Sand CP-2 site. Gravelly sites do occur on the breaks to the west and on the low ridges within the area. Photos from the last monitoring (late 1999) show little change so new photos were not taken. O&G activities are occuring in the area. Recent activity to the west was a dry hole, the pad and road were ripped and a barrier placed at the top of the breaks.

RFOs Upland and Biotic Standard Assessment Summary Worksheet			
SITE 65008-BREAKS #2-D264			
Legal Land Desc	SWNE 20 0060S 0270E Meridian 23	Acreage	1344
Ecosite		Photo Taken	N
Watershed	13060003220 FILLMORE		
Observers	NAVARRO/SPAIN	Observation Date	04/22/2003
County Soil Survey	NM644 CHAVES NORTH	Soil Var/Taxad	
Soil Map Unit	PBB	Soil Taxon Name	PAJARITO
Texture Class	NM644 FSL	Soil Phase	PAJARITO-BLUEPOINT
Texture Modifier	NM644 FINE SANDY LOAM,HU		
Observed Avg Annual Precipitation		Observed Avg Growing Season Precipitation	
NOAA Annual Precipitation	12.74	NOAA Growing Season Precipitation	8.4
NOAA Avg Annual Precipitation	13.16	NOAA Avg Growing Season Precipitation	10.83
Disturbances and Animal Use:			

Part 2. Attributes and Indicators						
		Departure from Ecological Site Description/Ecological Reference Areas				
Attribute	Indicators	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S H	Rills					X
Comments:						
S H	Water Flow Patterns				X	
Comments:						
S H	Pedestals and/or Terracettes		X			
Comments:	soils eroded exposing roots					

S H	Bare Ground		X			
Comments:	Soils erooded with brush species very prominent Data sets limited					
S H	Gullies			X		
Comments:	expected for this site					
S	Wind-scoured, Blowouts, and/or Deposition Areas		X			
Comments:	common					
H	Litter Movement			X		
Comments:	Thre was scattered concentrations but far below what was expected after the recent high winds.					
S H B	Soil Surface Resistance to Erosion			X		
Comments:						
S H B	Soil Surface Loss or Degradation			X		
Comments:						
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff			X		
Comments:						
S H B	Compaction Layer					X
Comments:						
B	Functional/Structural Groups			X		
Comments:						
B	Plant Mortality/Decadence				X	
Comments:	Sporobolus species and snakeweed are the most frequently encountered decadent plants					
H B	Litter Amount				X	
Comments:						
B	Annual Production			X		
Comments:						
B	Invasive Plants		X			
Comments:	Mesquite is common throughout the site					
B	Reproductive Capability of Perennial Plants				X	
Comments:						

S	Physical/Chemical/Biological Crusts				X	
Comments:	Mostly a physical crust-capping					
B	Wildlife Habitat				X	
Comments:						
B	Wildlife Populations					X
Comments:						
B	Special Status Species Habitat					X
Comments:	None known to occur					
B	Special Status Species Populations					X
Comments:	None known to occur					

Part 3. Summary

A. Indicator Summary - Each of the indicators are associated with one or more of the attributes below. An indicator is placed in a category (columns) above and summed for each of the Standard Attributes.

Standard Attribute		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S	Soil	0	3	3	2	2
H	Hydrologic	0	2	5	2	2
B	Biotic	0	1	4	4	4

B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the *Does not Meet* column, Moderate becomes *May Need More Info*, and Slight to Moderate and None to Slight merge to form the *Meets* columns. Values from the table are summarized below. Space is provided for rationale of the determination. This space should most certainly be sued when the determination by the ID team conflicts with the summarized values. Provide the sources of information that lead to the determination. X out the appropriate box for each attribute to denote final agreed upon determination by the ID team.

Attribute	Rationale	Does Not Meet	May Need More Info	Meets

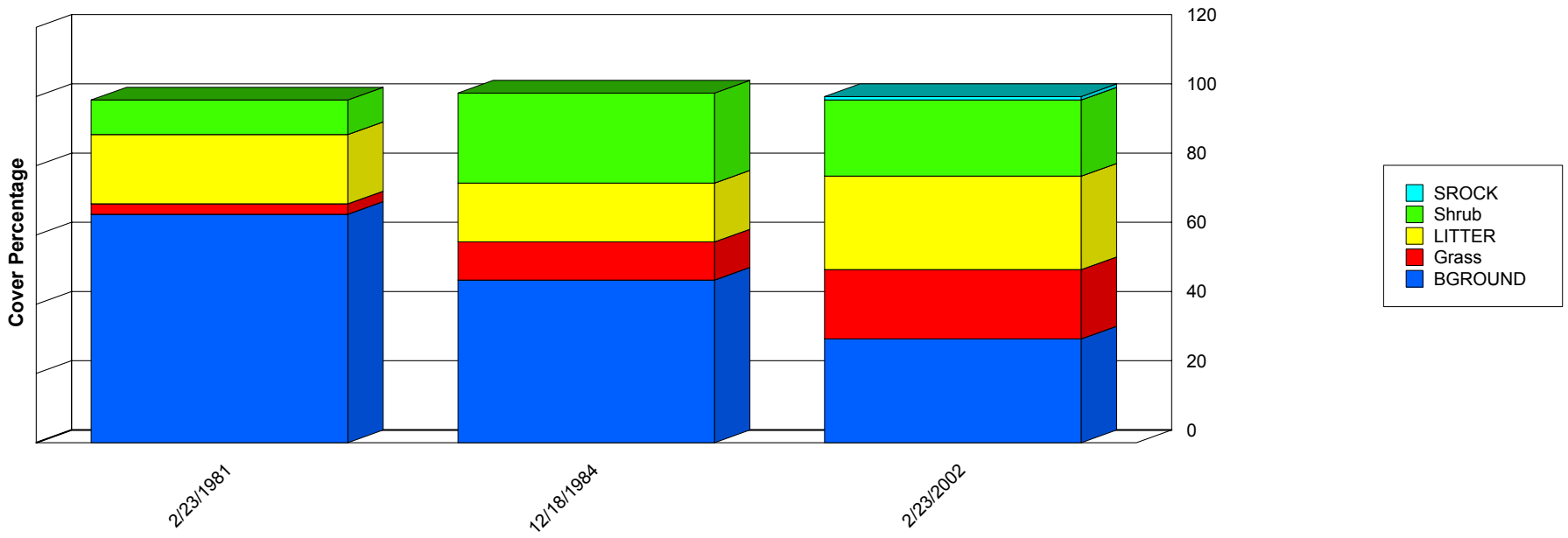
Soil	Blowouts/pedestals are common on the Pajarito-Blue point soils. Much of these soils are in an eroded phase. Although the rating is "meets" it is in the lower range.	3	3	4
Hydrologic	Blowouts/pedestals are common on the Pajarito-Blue point soils. Much of these soils are in an eroded phase. Although the rating is "meets" it is in the lower range.	2	5	4
Biotic		1	4	8

Site Notes: The soil association Pajarito-Bluepoint (PBB) is an eroded soil. Gulleying and hummocks are common with this soil, particularly in the Bluepoint soils. These soils are excessively drained and have a low waterholding capacity. This coupled with the droughty conditions has contributed to the decadent and loss of many of the Sporobolus species observed.

The bare ground indicator was rated moderate-extreme but this may be a lower rating than is justified for the soils/vegetation in this site. Generally, these soils have a higher per centage of bare ground than other soils that are grouped into the Sandy SD-3 site classfication. Droughty conditions have enhanced the appearance of bare ground on this site but it appears to be holding it's own.

Plant diversity on this site is greater than is indicated by the study data. This is one of the few sites thst species like bush muhley and plains bristle grass is growing in the interspaces between hummocks. Overall shrub dominate the site and many are desirable for wildlife species; however mesquite seems the most dominate.

Ground Cover Trends



	2/23/1981	12/18/1984	2/23/2002
BGROUND	66.00	47.00	30.00
Grass	3.00	11.00	20.00
LITTER	20.00	17.00	27.00
Shrub	10.00	26.00	22.00
SROCK	0.00	0.00	1.00
Total	99.00	101.00	100.00

Report Parameters

SITE NAME LIKE	65008-ADAMS #1-D263
ON/AFTER	10/01/1979
ON/BEFORE	09/30/2002

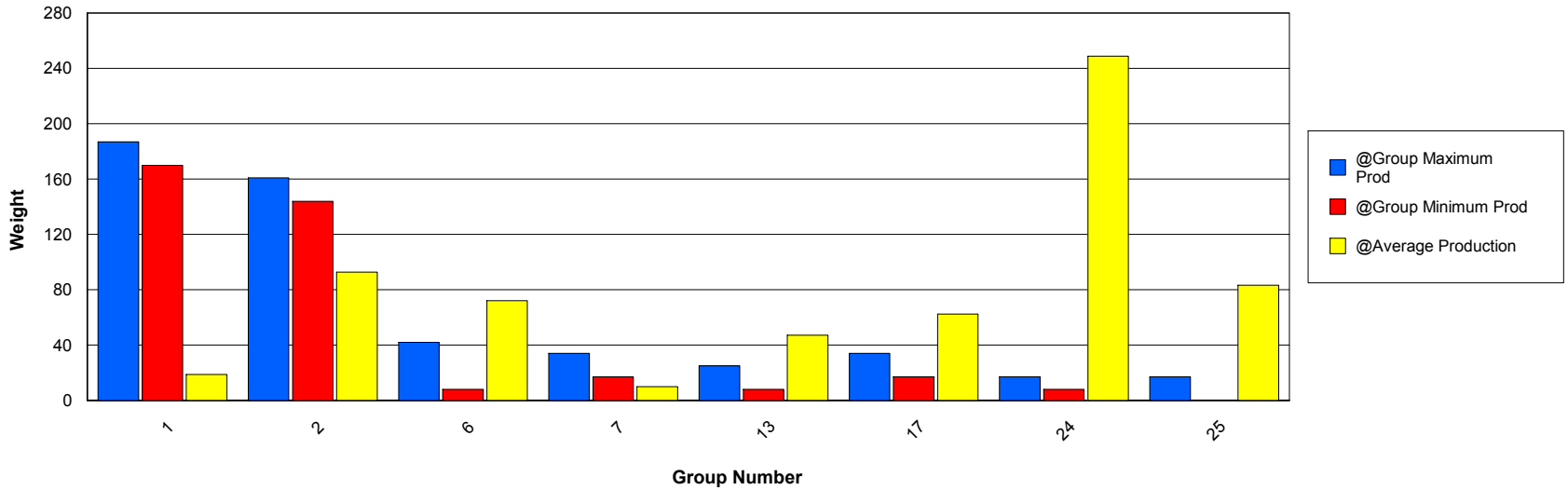
Functional / Structural Groups

Report Parameters

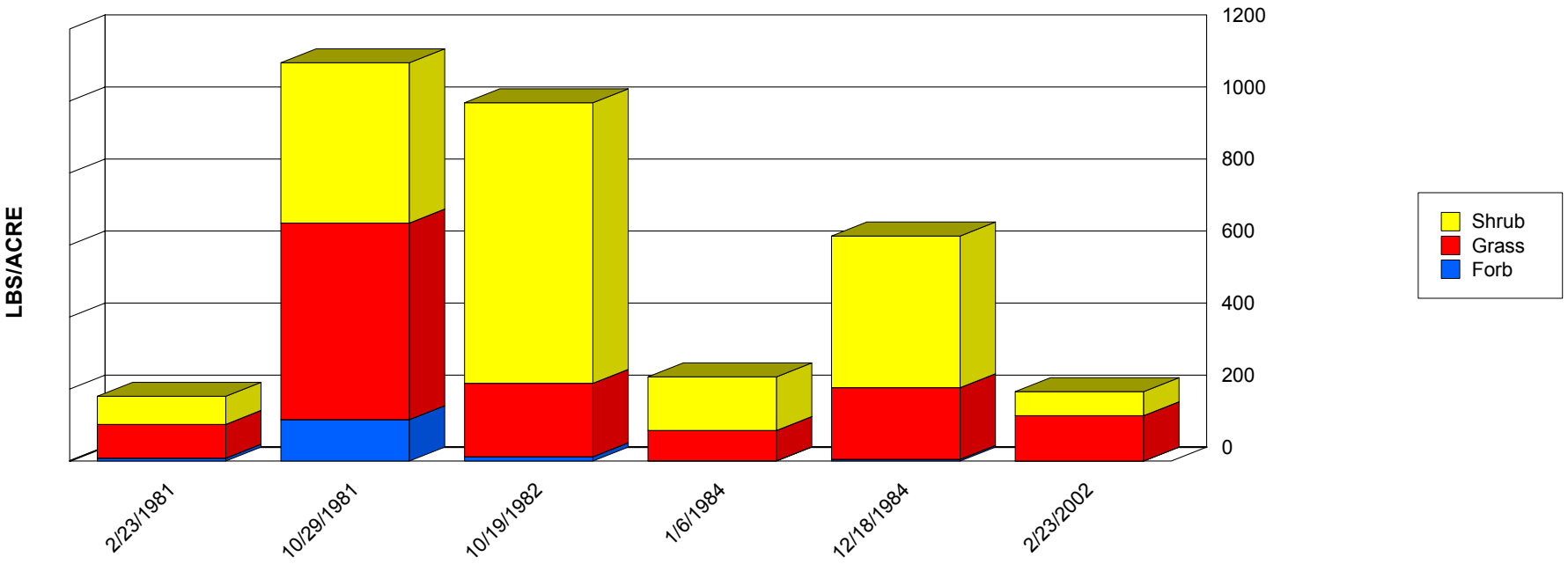
SITE NAME LIKE	65008-ADAMS #1-D263
ON/AFTER	10/01/1979
ON/BEFORE	09/30/2002
MIN LBS TO GRAPH	3
SELECTED ECOSITE	070BY062NM

Group	Plant Type	Species	Low Wt Allowed	High Wt Allowed	Minimum	Maximum	Average	STDEV
1	Grass	BOGR2	170	187	5.00	43.00	18.67	12.28
2	Grass	BOER4	144	161	41.00	230.00	92.67	66.55
6	Grass	SPCR	8	42	1.00	242.00	72.00	86.50
7	Grass	MUAR2	17	34	8.00	12.00	10.00	2.00
11	Grass	BOBA2	0	8	0.00	1.00	0.50	0.50
13	Grass	ERPI	8	25	0.00	1.00	0.50	0.50
13	Grass	MUPO2	8	25	9.00	73.00	27.50	26.36
13	Grass	MUTO2	8	25	0.00	23.00	11.50	11.50
13	Grass	PAOB	8	25	0.00	27.00	7.60	9.85
14	Forb	CROTO	25	42	0.00	2.00	0.67	0.94
17	Forb	CASSI	17	34	0.00	5.00	2.00	2.16
17	Forb	CHCO	17	34	0.00	1.00	0.50	0.50
17	Forb	GRSQ	17	34	0.00	23.00	11.50	11.50
17	Forb	LEFE	17	34	0.00	87.00	43.50	43.50
17	Forb	LESQU	17	34	1.00	9.00	3.67	3.77
17	Forb	SOEL	17	34	1.00	2.00	1.33	0.47
18	Forb	AAFF	8	25	1.00	3.00	2.00	1.00
24	Shrub	GUSA2	8	17	7.00	487.00	248.83	196.50
25	Shrub	PRGL2	0	17	0.00	292.00	83.20	107.20

Group	Plant Type	Species	Low Wt Allowed	High Wt Allowed	Minimum	Maximum	Average	STDEV



Production Lbs/Acre Trends

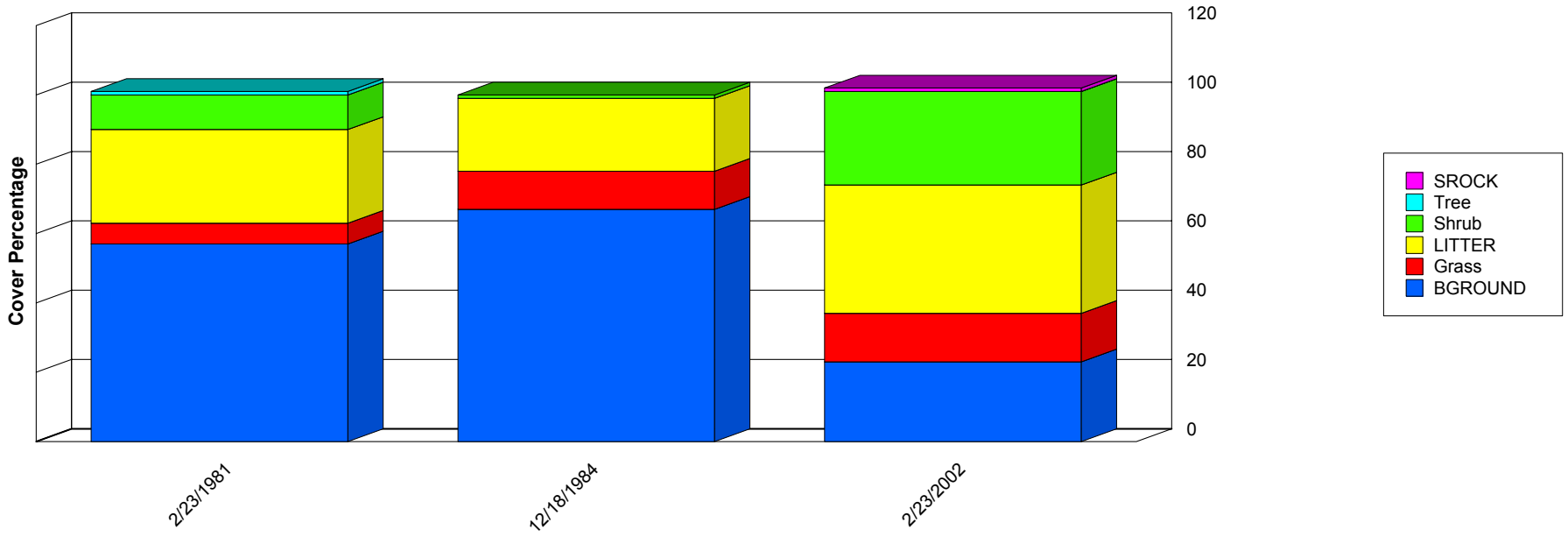


	2/23/1981	10/29/1981	10/19/1982	1/6/1984	12/18/1984	2/23/2002
Forb	**8.00**	**115.00**	**12.00**	**1.00**	**5.00**	**0.00**
Grass	**94.00**	**546.00**	**204.00**	**84.00**	**199.00**	**126.00**
Shrub	**78.00**	**445.00**	**779.00**	**149.00**	**421.00**	**67.00**
Total	**180.00**	**1,106.00**	**995.00**	**234.00**	**625.00**	**193.00**

Report Parameters

SITE NAME LIKE	65008-ADAMS #1-D263
ON/AFTER	10/01/1979
ON/BEFORE	09/30/2002

Ground Cover Trends



	2/23/1981	12/18/1984	2/23/2002
BGROUND	57.00	67.00	23.00
Grass	6.00	11.00	14.00
LITTER	27.00	21.00	37.00
Shrub	10.00	1.00	27.00
SROCK	0.00	0.00	1.00
Tree	1.00	0.00	0.00
Total	101.00	100.00	102.00

Report Parameters

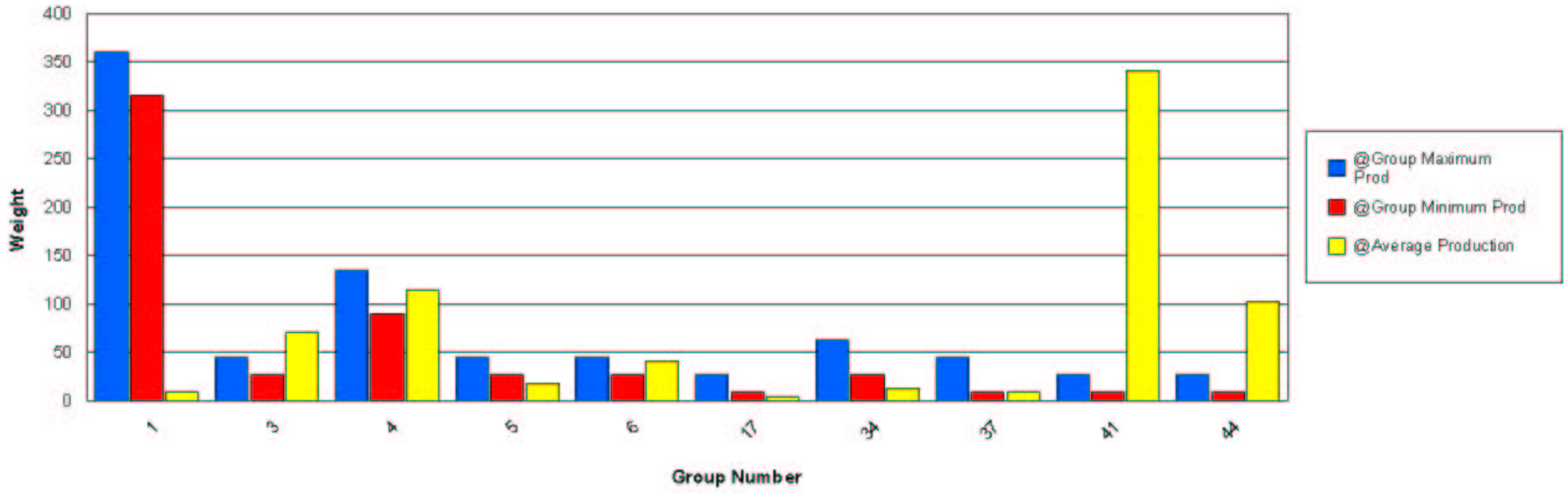
SITE NAME LIKE	65008-BREAKS #2-D264
ON/AFTER	10/01/1979
ON/BEFORE	09/30/2002

Functional / Structural Groups

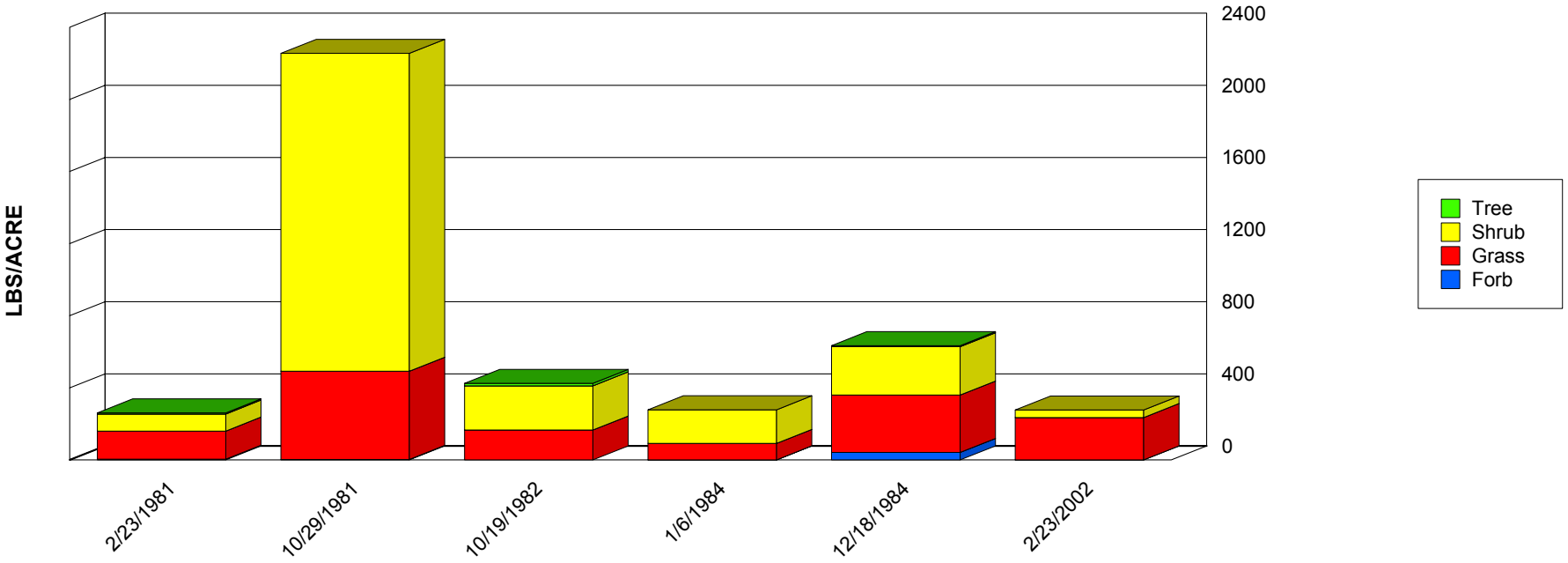
Report Parameters	
SITE NAME LIKE	65008-BREAKS #2-D264
ON/AFTER	10/01/1979
ON/BEFORE	09/30/2002
MIN LBS TO GRAPH	3
SELECTED ECOSITE	042CY004NM

Group	Plant Type	Species	Low Wt Allowed	High Wt Allowed	Minimum	Maximum	Average	STDEV
1	Grass	BOER4	315	360	0.00	17.00	8.50	8.50
3	Grass	MUPO2	27	45	32.00	183.00	69.83	52.29
4	Grass	SPCR	90	135	12.00	41.00	29.33	12.50
4	Grass	SPFL2	90	135	0.00	192.00	84.60	64.30
5	Grass	ARIST	27	45	0.00	34.00	18.17	14.12
6	Grass	SEMA5	27	45	1.00	183.00	40.33	64.40
17	Grass	CHCU2	9	27	2.00	6.00	4.00	1.63
34	Forb	AAFF	27	63	4.00	21.00	12.50	8.50
35	Forb	CHCO	9	27	0.00	3.00	1.50	1.50
37	Tree	YUEL	9	45	6.00	14.00	8.67	3.77
41	Shrub	ARFI2	9	27	0.00	81.00	29.33	36.65
41	Shrub	GUSA2	9	27	4.00	1,396.00	312.33	490.99
44	Shrub	PRGL2	9	27	14.00	286.00	102.17	90.50

Group	Plant Type	Species	Low Wt Allowed	High Wt Allowed	Minimum	Maximum	Average	STDEV



Production Lbs/Acre Trends

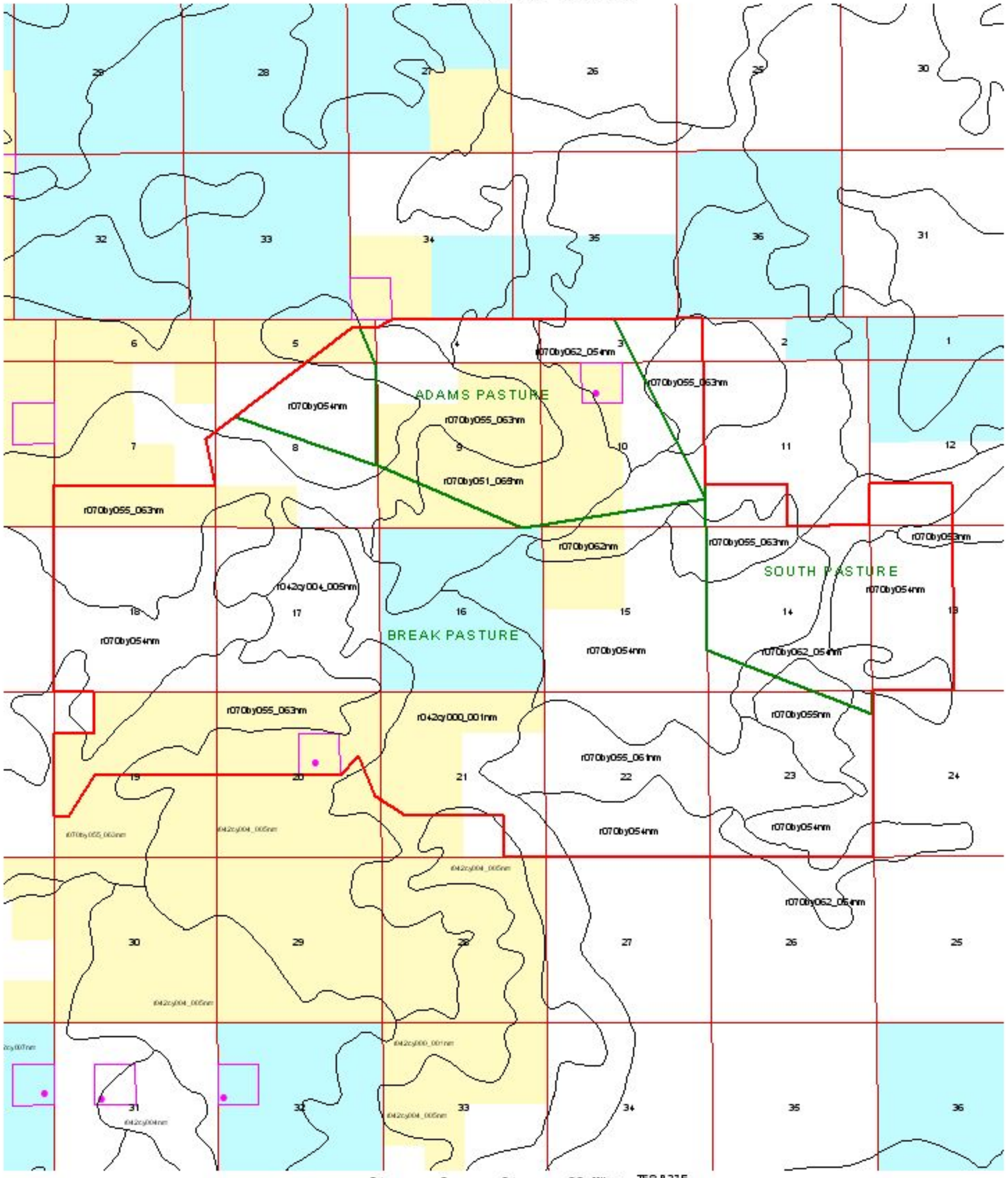


	2/23/1981	10/29/1981	10/19/1982	1/6/1984	12/18/1984	2/23/2002
Forb	**4.00**	**3.00**	**0.00**	**1.00**	**42.00**	**0.00**
Grass	**156.00**	**489.00**	**166.00**	**91.00**	**318.00**	**235.00**
Shrub	**95.00**	**1,763.00**	**245.00**	**186.00**	**268.00**	**42.00**
Tree	**6.00**	**0.00**	**14.00**	**0.00**	**6.00**	**0.00**
Total	**261.00**	**2,255.00**	**425.00**	**278.00**	**634.00**	**277.00**

Report Parameters

SITE NAME LIKE	65008-BREAKS #2-D264
ON/AFTER	10/01/1979
ON/BEFORE	09/30/2002

Rangeland Health Assessment
Ecological Sites
Allotment - 65008



Study Plots
40 Acres

Study Locations

State

Private

Public

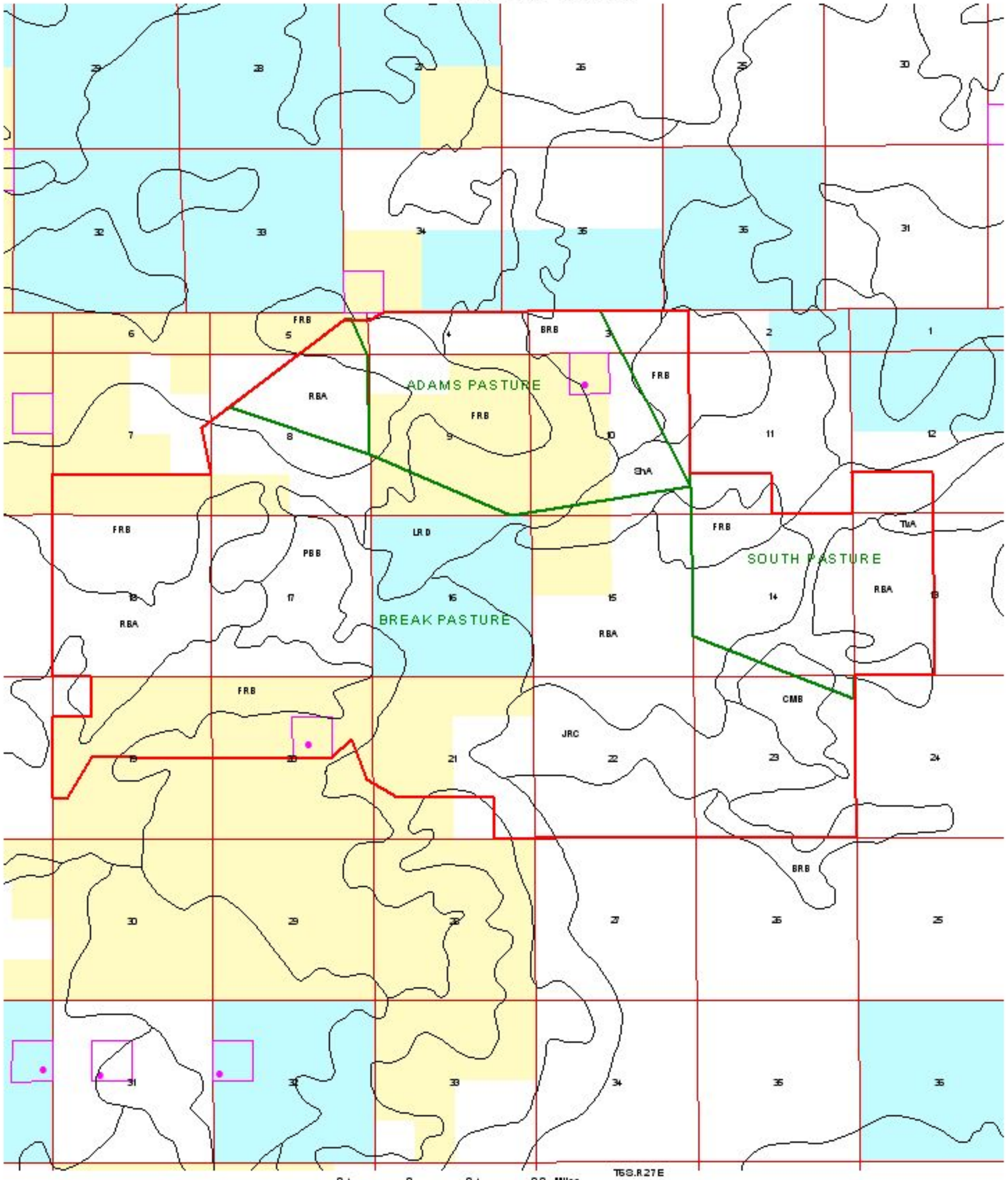
Allotment Boundary

Pasture Boundary

Ecological Site Boundary

Produced by the Roswell Field Office
GIS Specialist on May 14, 2003.

Rangeland Health Assessment
Soil Mapping Units
Allotment - 65008



Produced by the Roswell Field Office
GIS Specialist on May 14, 2003.

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